

- 1 1. A solid bowl helical conveyor centrifuge having the following:
  - 2 a rotating drum, which includes a centrifuge space with a rotatable screw;
  - 3 an inlet tube for supplying a material for centrifugation into the centrifuge space;
  - 4 at least one liquid discharge and at least one solids discharge; wherein
  - 5 the liquid discharge and/or the solid discharge having at least one or more openings in a
  - 6 rotating part of the solid bowl helical conveyor centrifuge, in particular through openings in the drum
  - 7 wall;
- 8 at least one of the openings is covered by a housing which encloses the drum of the solid
- 9 bowl helical conveyor centrifuge in only some sections; and
- 10 between the at least one housing and the drum and/or other rotating elements of the solid
- 11 bowl helical conveyor centrifuge (drum heads, hubs) at least one or more gaskets are provided.
- 1 2. The solid bowl helical conveyor centrifuge according to Claim 1, wherein the gaskets are
- 2 bearing ring gaskets.
- 1 3. The solid bowl helical conveyor centrifuge according to Claim 1, wherein at least one of the
- 2 openings is in an axial end face of the drum wall.
- 1 4. The solid bowl helical conveyor centrifuge according to Claim 1, wherein at least one of the
- 2 openings is in the circumferential wall of the drum and points radially outward.
- 1 5. The solid bowl helical conveyor centrifuge according to Claim 1, wherein at least one
- 2 housing extends over the area of the openings on the drum.

1    6.    The solid bowl helical conveyor centrifuge according to Claim 1, wherein the at least one  
2                 housing is in the form of a ring.

1    7.    The solid bowl helical conveyor centrifuge according to Claim 1, wherein the gaskets are  
2                 arranged between the inside circumference of the axial wall of the housing and that of the  
3                 drum.

1    8.    The solid bowl helical conveyor centrifuge according to Claim 1, wherein the at least one  
2                 housing is designed with a step and extends over a step of the drum.

1    9.    The solid bowl helical conveyor centrifuge according to Claim 1, wherein the at least one  
2                 housing cannot rotate.

1    10.    The solid bowl helical conveyor centrifuge according to Claim 1, wherein at least one of the  
2                 openings is a solids discharge in or connected to a tapered section of the drum.

1    11.    The solid bowl helical conveyor centrifuge according to Claim 10, wherein the liquid  
2                 discharge is a scraper disk.

1    12.    The solid bowl helical conveyor centrifuge according to Claim 11, wherein the scraper disk  
2                 is arranged in a chamber of the drum, adjacent to the centrifuge space.

1    13.    The solid bowl helical conveyor centrifuge according to Claim 12, wherein the chamber is  
2                 connected to the drum by at least one opening.

1    14.    The solid bowl helical conveyor centrifuge according to Claim 1, wherein at least one of the  
2                 openings is a liquid discharge in the form of an overflow opening in the end face of the drum

3 facing away from the solids discharge, whereby this at least one overflow opening is covered  
4 by one of the housings.

1 15. The solid bowl helical conveyor centrifuge according to Claim 1, wherein one of the gaskets  
2 is in contact with the axial end face of the drum and another of the gaskets is in contact with  
3 a cylindrical drum head, which is adjacent to the outside wall of the drum.

1 16. The solid bowl helical conveyor centrifuge according to Claim 1, wherein one of the gaskets  
2 is between the drumhead and the stationary scraper disk.

1 17. The solid bowl helical conveyor centrifuge according to Claim 1, wherein the at least one  
2 housing is pressurized and operates at more than 0.5 bar, preferably 3 to 6 bar.

1 18. The solid bowl helical conveyor centrifuge according to Claim 1, wherein the peripheral  
2 speed of the gaskets is greater than 30 m/sec.

1 19. The solid bowl helical conveyor centrifuge according to Claim 1, wherein the temperature  
2 during processing of material for centrifugation in an area which is pressurized is more than  
3 50°C, preferably 100°C to 160°C.

1 20. A solid bowl helical conveyor centrifuge having the following:  
2 a rotating drum, which includes a centrifuge space with a rotatable screw;  
3 an inlet tube for supplying a material for centrifugation into the centrifuge space;  
4 at least one liquid discharge and at least one solids discharge; wherein

5           the liquid discharge and/or the solid discharge having at least one or more openings in a  
6   rotating part of the solid bowl helical conveyor centrifuge, in particular through openings in the drum  
7   wall;

8           at least one of the openings is covered by a housing which encloses the drum of the solid  
9   bowl helical conveyor centrifuge in only some sections, wherein at least one housing is pressurized  
10   and operates at more than 0.5 bar, preferably 3 to 6 bar; and

11           between the at least one housing and the drum and/or other rotating elements of the solid  
12   bowl helical conveyor centrifuge (drum heads, hubs) at least one or more gaskets are provided.

1   21.   A solid bowl helical conveyor centrifuge having the following:

2           a rotating drum, which includes a centrifuge space with a rotatable screw;

3           an inlet tube for supplying a material for centrifugation into the centrifuge space;

4           at least one liquid discharge and at least one solids discharge; wherein

5           the liquid discharge and/or the solid discharge having at least one or more openings in a  
6   rotating part of the solid bowl helical conveyor centrifuge, in particular through openings in the drum  
7   wall;

8           at least one of the openings is covered by a housing which encloses the drum of the solid  
9   bowl helical conveyor centrifuge in only some sections, wherein at least one housing is pressurized  
10   and operates at more than 0.5 bar, preferably 3 to 6 bar; and

11           between the at least one housing and the drum and/or other rotating elements of the solid  
12   bowl helical conveyor centrifuge (drum heads, hubs) at least one or more gaskets are provided,  
13   wherein the gaskets are bearing ring gaskets.